WHAT IS CLAIMED IS:

1. A non-woven mat of chopped strands, comprising:

a plurality of fibers disposed in a non-woven configuration to define a mat;

at least 20% of said fibers in fiber bundles having between 5-450 fibers per bundle and the length of said bundles being substantially the same as the lengths of the fibers forming said bundles, and wherein at least 85% of said fibers of said fiber bundles have a diameter of between about 7-500 microns; and

wherein said fibers in said fiber bundles are held together with a substantially water insoluble sizing.

2. A non-woven mat as recited in claim 1 wherein at least 85% of said fibers in said bundles have a length of between 5-100 mm.

3. A non-woven mat as recited in claim 2 wherein at least 85% of said fibers in said bundles have a diameter of between 7-35 microns.

4. A non-woven mat as recited in claim 1 wherein at least 10% of the fibers in said fiber bundles comprise reinforcement fibers selected from the group consisting essentially of glass, aramid, carbon, polypropylene, acrylic, and PET fibers, and combinations thereof.

5. A non-woven mat as recited in claim 1 wherein at least 50% of the fibers in said fiber bundles comprise glass fibers.

6. A non-woven mat as recited in claim 1 wherein at least 85% of said fibers in said bundles have a length of between 5-100 mm, and wherein at least 85% of said fibers in said bundles have a diameter of between 7-35 microns.

7. A woven mat as recited in claim 4 wherein at least 85% of said fibers in said fiber bundles are selected from said group.

8. A woven mat as recited in claim 1 wherein at least 85% of said fibers in said fiber bundles have a length of between about 7-50 mm.

9. A woven mat as recited in claim 1 wherein said mat has a density of between about 50-900 g/m^2.

10. A woven mat as recited in claim 1 wherein at least 85% of said fibers in said fiber bundles have between 10-450 fibers/bundle and a length substantially the same as the length of said fiber bundle, and a diameter between about 7-35 microns; and wherein the sizing is epoxy resin or PVOH.

11. A non-woven mat of chopped strands, comprising:

a plurality of fibers disposed in a non-woven configuration to define a mat;

at least 20% of said fibers in fiber bundles having between 5-450 fibers per bundle and the length of said bundles being substantially the same as the lengths of the fibers forming said bundles, and wherein at least 85% of said fibers of said fiber bundles have a diameter of between about 7-500 microns; and

wherein said mat has a substantially uniform density of less than 75 g/m^2.

12. A non-woven mat of chopped strands, comprising:

a plurality of fibers disposed in a non-woven configuration to define a mat;

at least 20% of said fibers in fiber bundles having between 5-450 fibers per bundle and the length of said bundles being substantially the same as the lengths of the fibers forming said bundles, and wherein at least 85% of said fibers of said fiber bundles have a diameter of between about 7-500 microns; and

wherein said mat has a substantially uniform density of between about 50-150 g/m^2.

13. A non-woven mat as recited in claim 12 wherein at least 60% of said fiber bundles have between 10-200 fibers per bundle, and wherein substantially all the fibers in the bundles are substantially straight.

14. A method of producing a non-woven chopped strand mat comprising:

(a) forming a slurry of fibers in a liquid or foam wherein at least 20% of the fibers in the slurry are in fiber bundles in which the fibers are held in the bundles by a substantially non-water soluble sizing;

(b) forming a non-woven web from the slurry on a foraminous element; and

(c) withdrawing at least one of liquid and foam from the slurry on the foraminous element so as to form a non-woven mat.

15. A method as recited in claim 14 wherein (b) is practiced at a speed of at least 60 m/mi.

16. A method as recited in claim 14 wherein (a) is practiced to produce a slurry wherein at least 50% of the fibers are in fiber bundles of between 5-450 fibers with the length of the bundles substantially the same as the length of the fibers making up the bundles, and at least 85% of the fibers in the bundles have a diameter of between about 7-500 microns.

17. A method as recited in claim 16 wherein (a) is practiced using at least 10% of reinforcing fibers in the fiber bundles, the reinforcing fibers selected from the group consisting essentially of glass, acrylic, aramid, carbon, polypropylene, and PET fibers, and combinations thereof.

18. A method as recited in claim 16 wherein (a)-(c) are practiced so as to produce a mat having a substantially uniform density of between about 50-150 gm/m^2.

19. A method as recited in claim 16 wherein (b) and (c) are practiced at a speed of at least 80 m/min.

20. A method as recited in claim 14 further comprising producing a second mat from at least a second slurry having a different fiber composition or density than the slurry from (a), and laying the at least a second slurry in a substantially non-mixing manner on the slurry from (a) to produce a composite mat having at least two substantially distinct layers with at least one of different fiber compositions or densities.

21. A method as recited in claim 14 further comprising (d) providing at least one surface layer on the mat and affixing the at least one surface layer to the mat with a binder.

22. A method as recited in claim 21 further comprising curing the binder from (d) and drying the web in a drying oven.

23. A method as recited in claim 14 wherein (a)-(c) are practiced using a moving web of fabric which becomes part of the mat produced as a foraminous element.

24. A method as recited in claim 14 wherein (a) is further practiced using heat activated binder powder or fibers in the slurry.

25. A method as recited in claim 15 wherein (a)-(c) are practiced using foam as the slurrying fluid.

26. A method as recited in claim 25 wherein (a) is practiced to produce a slurry having between about 0.5-5% by weight fibers.

27. A method as recited in claim 26 wherein (a) is practiced to produce a slurry wherein at least 50% of the fibers are in fiber bundles of between 5-450 fibers with the length of the bundles substantially the same as the length of the fibers making up the bundles, and at least 85% of the fibers in the bundles have a diameter of between about 7-500 microns; and wherein (a) is practiced using at least 10% of reinforcing fibers in the fiber bundles, the reinforcing fibers selected from the group consisting essentially of glass, acrylic, aramid, carbon, polypropylene, and PET fibers, and combinations thereof.

28. A non-woven mat produced according to the method of claim 14.

29. A non-woven mat produced according to the method of claim 26.

30. A non-woven mat produced according to the method of claim 18, and having a substantially uniform density of about 75 gm/m^2 or less.

31. A method of producing a non-woven chopped strand mat comprising:

(a) forming a slurry of fibers in a liquid or foam wherein at least 20% of the fibers in the slurry are in fiber bundles having between 10-450 fibers/bundle and a length substantially the same as the length of said fiber bundle, which length is between 5-100 mm for at least 85% of the fibers in bundles, and a diameter of the fibers in bundles of between 7-500 microns;

(b) forming a non-woven web from the slurry on a foraminous element; and

(c) withdrawing at least one of liquid and foam from the slurry on the foraminous element so as to form a non-woven mat.

32. A method as recited in claim 31 wherein at least 10% of the fibers in the fiber bundles comprise reinforcement fibers selected from the group consisting essentially of glass, aramid, carbon, polypropylene, acrylic, and PET fibers, and combinations thereof.

33. A method as recited in claim 31 wherein (b) and (c) are practiced at a speed of at least 80 m/min, and wherein (a)-(c) are practiced using the foam process, and wherein (a) is practiced to produce a slurry having between about 0.5-5% by weight fibers and without viscosity-enhancing additives.

34. A composite product comprising outer layers made from resin impregnated and cured mats according to claim 3, and an inner layer of at least one of inexpensive fibers, scrap fibers, and material of significantly lower density than said outer layers.

35. A fiber-based web manufactured by the foam process and comprising at least two layers, or parts of layers, with different physical or chemical properties.

36. A non-woven fibrous composite web manufactured by using a liquid or foam based process, and by using a multi-layer headbox or divided headbox, the composite web comprising at least two layers, or parts of layers, having substantially different properties, including at least one of different density, different material, different reinforcement threads, and different reinforcement webs.